

**CLAIMS**

1) An inkjet recording element comprising a support and at least one ink-receiving layer comprising at least one hydrosoluble binder and at least one hybrid aluminosilicate polymer obtainable by a preparation method that  
5 comprises the following steps:

- a) treating a mixed aluminum and silicon alkoxide of which the silicon has both hydrolyzable substituents and a non-hydrolyzable substituent, or a mixed aluminum and silicon precursor resulting from the hydrolysis of a mixture of aluminum compounds and  
10 silicon compounds only having hydrolyzable substituents and silicon compounds having a non-hydrolyzable substituent, with an aqueous alkali, in the presence of silanol groups, the aluminum concentration being maintained at less than 0.3 mol/l, the Al/Si molar ratio being maintained between 1 and 3.6 and the alkali/Al  
15 molar ratio being maintained between 2.3 and 3;
- b) stirring the mixture resulting from step a) at ambient temperature in the presence of silanol groups long enough to form the hybrid aluminosilicate polymer; and
- c) eliminating the byproducts formed during steps a) and b) from the  
20 reaction medium,

wherein the ink-receiving layer also comprises inorganic particles.

2) The recording element according to Claim 1, wherein the inorganic particles are based on metal oxide or metal hydroxide.  
25

3) The recording element according to Claim 2, wherein the inorganic particles are based on alumina, silica, titanium, zirconium, or their mixtures.

4) The recording element according to Claim 3, wherein the inorganic particles are selected from among the group consisting of the boehmites,  
30

fumed aluminas, colloidal silicas, fumed silicas, calcium silicates, magnesium silicates, zeolites, kaolin, bentonite, silicon dioxide, and titanium dioxide.

5           5)       The recording element according to Claim 1, wherein the inorganic particles are based on calcium carbonates or barium carbonates.

10           6)       The recording element according to any one of the previous claims, wherein the ink-receiving layer comprises a quantity of hybrid aluminosilicate polymer in the dry state between 5 and 20 percent by weight compared with the total dry inorganic weight.

15           7)       The recording element according to any one of the previous claims, wherein, in the ink-receiving layer, the total dry inorganic weight is between 5 and 95 percent of the total dry receiving layer weight.

            8)       The recording element according to Claim 1, wherein the alkali of step a) to prepare the hybrid aluminosilicate polymer is selected from the group consisting of sodium, potassium, and lithium hydroxide.

20           9)       The recording element according to Claim 1, wherein the aluminum concentration used to prepare the hybrid aluminosilicate polymer is maintained between  $1.4 \times 10^{-2}$  and 0.3 mol/l.

25           10)      The recording element according to Claim 1, wherein said alkali/Al molar ratio to prepare the hybrid aluminosilicate polymer is about 2.3.

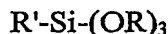
30           11)      The recording element according to Claim 1, wherein said mixed aluminum and silicon precursor resulting from hydrolysis of a mixture of aluminum compounds and silicon compounds only having hydrolyzable substituents and silicon compounds having a non-hydrolyzable substituent is a product resulting from the mixture in an aqueous medium (i) of a compound

selected from the group consisting of aluminum salts, aluminum alkoxides and aluminum halogenoalkoxides and (ii) at least one compound selected from the group consisting of silicon alkoxides and chloroalkoxides only having hydrolyzable substituents, and (iii) at least one compound selected from the group  
5 consisting of silicon alkoxides and chloroalkoxides having a non-hydrolyzable substituent.

12) The recording element according to Claim 11, wherein said mixed aluminum and silicon precursor is the product resulting from the mixture (i)  
10 of an aluminum halide and (ii) a mixture having at least one silicon alkoxide only having hydrolyzable substituents and at least one silicon alkoxide having a non-hydrolyzable substituent.

13) The recording element according to Claim 12, wherein the  
15 ratio of silicon alkoxide only having hydrolyzable substituents to silicon alkoxide having a non-hydrolyzable substituent is between 0.1 and 10 in moles silicon.

14) The recording element according to any one of Claims 11 to 13, wherein the silicon alkoxide having a non-hydrolyzable substituent is  
20 represented by the formula



wherein R represents an alkyl group comprising 1 to 5 carbon atoms  
25 R' represents H, F, or a substituted or unsubstituted linear or branched alkyl or alkenyl group comprising 1 to 8 carbon atoms.

15) The recording element according to Claim 14, wherein R' represents a methyl, ethyl, n-propyl, n-butyl, 3-chloropropyl, or vinyl group.

16) The recording element according to Claim 15, wherein said silicon alkoxide having a non-hydrolyzable substituent is methyltriethoxysilane or vinyltriethoxysilane.

5 17) The recording element according to Claim 11, wherein said silicon alkoxide only having hydrolyzable substituents is tetramethyl orthosilicate or tetraethyl orthosilicate.

10 18) The recording element according to Claim 1, wherein the hydrophilic binder is gelatin or polyvinyl alcohol.